User Manual

Code Reader™ 1400

Manual Version 02

Release Date: January 2012

Statement of Agency Compliance

The Code Reader™ 1400 (CR1400) has been tested for compliance with FCC regulations and was found to be compliant with all applicable FCC Rules and Regulations.

IMPORTANT NOTE: To comply with FCC RF exposure compliance requirements, this device must not be co-located or operate in conjunction with any other antenna or transmitter.

CAUTION: Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

The CR1400 has been tested for compliance to CE standards and guidelines and was found to conform to applicable CE standards, specifically the EMC requirements EN 55024, ESD EN 61000-4-2, Radiated RF Immunity EN 61000-4-3, ENV 50204, EFT EN 61000-4-4, Conducted RF Immunity EN 61000-4-6, EN 55022, Class B Radiated Emissions, and Class B Conducted Emissions.

Code voids product warranty if the hard case has been opened or tampered with in any way.

In addition, a CB Test Certificate has been issued by the National Certification Board (NCB) indicating CR1400 meets all safety and quality standards in accordance to IEC 60950-1:2001, First Edition.

Code Reader 1400 User Manual

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The Code Reader software is based in part on the work of the Independent JPEG Group.

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1.0 - Unpacking

Remove the CR1400 from its packing and inspect it for damage. If the reader was damaged during shipping, please call Code at (801) 495-2200.

The CR1400 is shipped with one of the following cables attached:

6’ USB
Straight Cable

8’ RS232 Coiled Cable
w/ Power Supply

2.0 - Powering On/Off the Reader

For USB: to power up the reader, simply plug the USB cable provided into the reader and USB port on the host device. After several seconds, the unit will beep twice, the LED will turn off and the CR1400 is ready for use.

For RS232: to power up the reader, simply plug the RS232 cable provided into the reader, plug the Power Supply into the AC outlet, plug the power supply cord into the barrel jack on the cable, and lastly connect the cable to the appropriate serial port on the host device.

After several seconds, the unit will beep twice, the LED will turn off and the CR1400 is ready for use.

3.0 - Detaching a Cable

To detach a cable, press a paper clip into the hole on the side of the CR1400 handle, and gently pull the cable from the reader.

4.0 - Using a CR1400 Out of a Universal Stand

Press and hold the trigger on the the CR1400, the two blue bars emitting from the reader are used for targeting. Center the blue bars in the middle of a bar code. The optimal reading distance from reader to bar code is approximately 4.0” (10 cm).

Once the reader is at the optimal distance, the reader will automatically read the bar code. The CR1400 will beep, vibrate and flash a green LED to indicate a ‘good read’ has occurred.

To modify any default settings, download the CR1400 Configuration Guide at www.codecorp.com/files.php and scan the appropriate code.

5.0 - Using a CR1400 in a Universal Stand

Revision 2 of the CR1400 features both in-stand and out-of-stand scanning modes. By default, when the CR1400 is placed in the stand, the unit enters a motion detection mode where simply placing a bar code in the scan field will automatically activate the reader. The CR1400 will beep and flash the Green LED on a good read.

When the CR1400 is removed from the stand, the device switches to manual mode and the button must be pressed to activate the reader. In manual mode, the CR1400 will beep, vibrate and flash the Green LED on a good read.

To turn off the ‘in stand’ motion detection mode, download the CR1400 Configuration Guide at www.codecorp.com/files.php and scan the appropriate code.

See Section 10.0 to learn how to find your CR1400 Revision number.

6.0 - Reading Ranges

CR1400 Performance		
Test Code	Min Inches (mm)	Max Inches (mm)
3 mil Code 39	3.9” (100 mm)	5.0” (125 mm)
7.5 mil Code 39	2.2” (55 mm)	8.0” (205 mm)
13 mil UPC	2.0” (50 mm)	10.8” (275 mm)
4.2 mil Data Matrix	3.7” (95 mm)	4.7” (120 mm)
5 mil Data Matrix	3.7” (95 mm)	5.5” (140 mm)
6.3 mil Data Matrix	3.1” (80 mm)	6.3” (160 mm)
10 mil Data Matrix	1.6” (40 mm)	7.9” (200 mm)
20.8 mil Data Matrix	1.6” (40 mm)	12.2” (310 mm)

Note: working ranges are a combination of both the wide and high density fields. All samples were high quality codes and were read along a physical center line at a 10° angle. Default AGC settings were used. Accuracy= +/- 10%.

7.0 - Reader Feedback

Scenario	Top LED Light	Sound	Vibration
CR1400 Successfully Powers Up	Green LED Flashes	1 Beep	Handle Vibrates
CR1400 Successfully Enumerates with Host (via cable)	Once Enumerated, the Green LED turns Off	1 Beep	Handle Vibrates
Attempting to Decode	Green LED Light is Off	None	No Vibration
Successful Decode and Data Transfer via Cable	Green LED Flashes	1 Beep	Handle Vibrates
Configuration Code Successfully Decoded and Processed	The Green LED Flashes	2 Beep	Handle Vibrates
Configuration Code successfully decoded but wasn’t successfully processed	The Green LED Flashes	4 Beeps	Handle Vibrates

8.0 - Symbologies Defaulted On

The following are symbologies that have a default of ON. To turn symbologies on or off, scan the symbology bar codes located in the CR1400 Configuration Guide located on our website at http://www.codecorp.com.

Aztec
Codabar
Codablock F
Code 11
Code 39
Code 39 Short Margin
Code 93
Code 128
Code 128 Short Margin
Data Matrix
All GS1 DataBar
Interleaved 2 of 5
MSI Plessy
NEC 2 of 5
PDF417
QR Code
Telepen
UPC
UPC Short Margin
UPC Extension

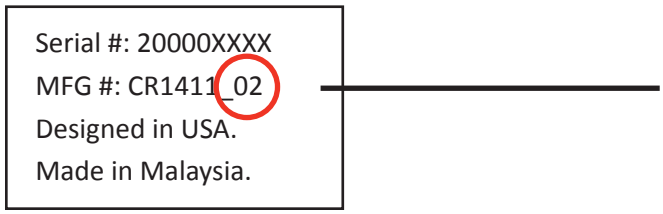
9.0 - Symbologies Defaulted Off

The following are symbologies that have a default of OFF. To turn symbologies on or off, scan the symbology bar codes located in the CR1400 Configuration Guide located on our website at http://www.codecorp.com.

Codablock F
Code 11
Code 39 Extended Full ASCII
Code 39 Checksum
Composite
Data Matrix Rectangle
Data Matrix Inverse
Interleaved 2 of 5, 2 Digits
Macro PDF417
Maxicode
Matrix 2 of 5
Micro PDF417
OCR
Postal Codes - All Postal Codes

10.0 - Locating the Hardware Revision Number

Locate the serial label on the bottom of the reader to identify the hardware revision number of the CR1400.


Serial #: 20000XXXX
MFG #: CR1411_02
Designed in USA.
Made in Malaysia.
The number after the underscore (_) represents the hardware revision number.

11.0 - Reader ID and Firmware Version

To find out the Reader ID and firmware version, open a text editor program (i.e., Notepad, Microsoft Word, etc.) and read the following code:

Reader ID and Firmware

You will see a text string indicating your firmware version and CR1400 ID number (see below):

Xap/iVVVVWWWWXXXXSSSSSSSSSPXX-XX+XXX

Xap/i - Code Internal ID (not applicable)

VVVV is the application firmware version number

WWWW is the Core firmware version number

XXXX is not applicable

SSSSSSSSS Reader's serial number (ten digits)

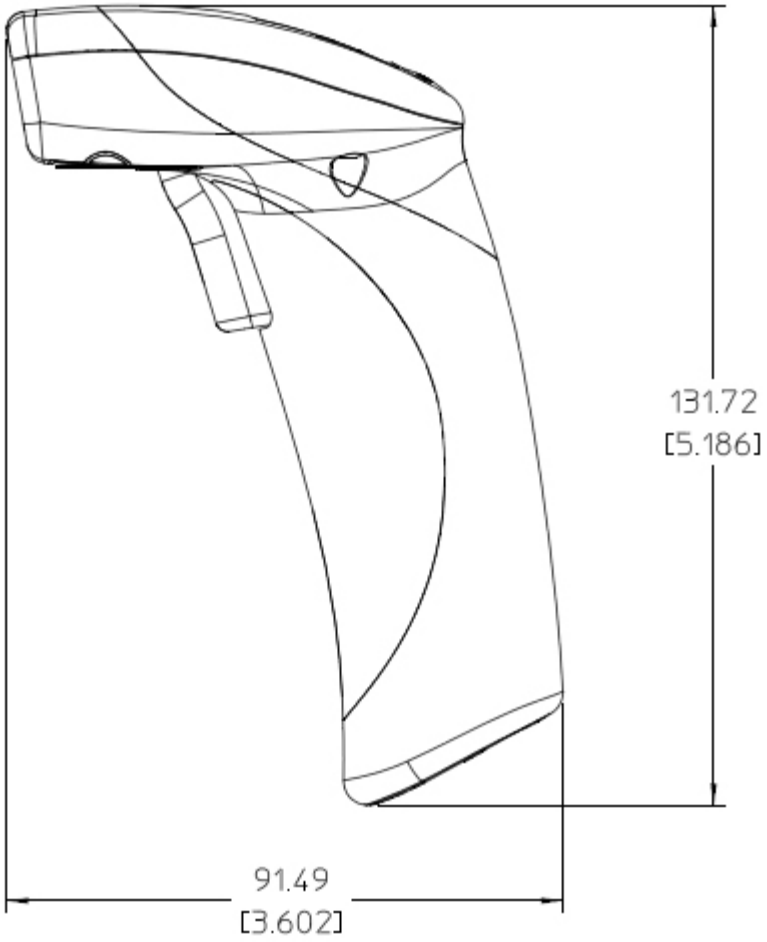
P is "A" if running firmware is the application

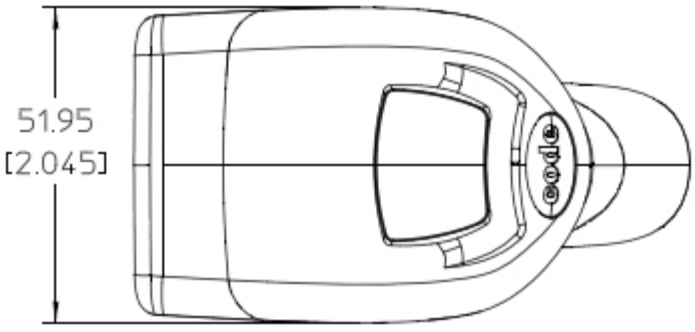
XXX-XX+XX - Internal ID (not applicable)

Example: Xap/i3000300006040010002363A06D-SD+SQ

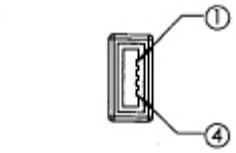
Note: Code will periodically release new firmware for CR1400 readers. For information on latest firmware versions, call Code at (801) 495-2200. To upgrade firmware, please visit our website at **http://www.codecorp.com/codesupport.php** and follow instructions provided.

12.0 - CR1400 Overall Dimensions



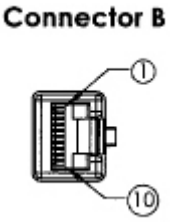


13.0 - USB Cable Example with Pinouts



WIRING TABLE:

CONNECTOR A	NAME	WIRE	COLOR	CONNECTOR B
1	VIN	24AWG	RED	1
2	DM	28AWG	WHITE	2
3	DP	28AWG	GREEN	3
4	GND	24AWG	BLACK	10
SHELL	-	SHIELD	BARE	SHELL

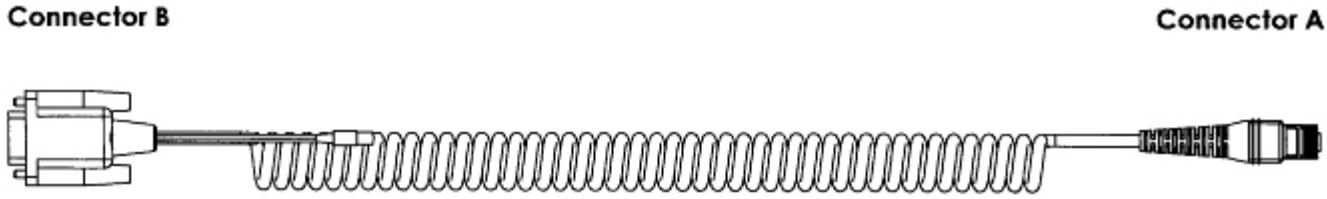


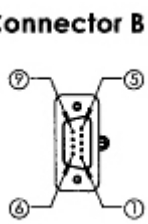
See Section 15.0 for complete reader pinouts descriptions.

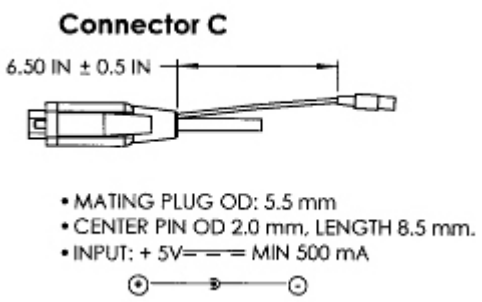
NOTES:

1. Part to be ROHS and Reach compliant.
2. Maximum Voltage Tolerance = 5V +/- 10%.
3. Caution: Exceeding the maximum voltage will void manufacturer warranty.

14.0 - RS232 Cable Example with Pinouts







WIRING TABLE:

CONN A	NAME	WIRE	COLOR	CONN B	WIRE	COLOR	CONN C
1	VIN	24AWG	RED	9	24AWG	RED	TIP
4	TX	28AWG	BROWN	2			
5	RTS	28AWG	ORANGE	8			
6	RX	28AWG	YELLOW	3			
7	CTS	28AWG	GREEN	7			
10	GND	24AWG	BLACK	5	24AWG	BLACK	RING
SHIELD	-	SHIELD		SHIELD			

See Section 15.0 for complete reader pinouts descriptions.

NOTES:

1. Part to be ROHS and Reach compliant.
2. Maximum Voltage Tolerance = 5V +/- 10%.
3. Caution: Exceeding the maximum voltage will void manufacturer warranty.

15.0 - Reader Pinouts

The connector on the CR1400 is an RJ-50 (10P-10C). The pinouts are as follows:

Pin 1	+VIN (5v)
Pin 2	USB_DM
Pin 3	USB_DP
Pin 4	RS232 TX (output from reader)
Pin 5	RS232 RTS (output from reader)
Pin 6	RS232 RX (input to reader)
Pin 7	RS232 CTS (input to reader)
Pin 8	External Trigger (active low input to reader)
Pin 9	N/C
Pin 10	Ground

16.0 - CR1400 Maintentance

The CR1400 device operates efficiently and reliably and needs only a minimum of maintenance to operate.
A few tips are given below for maintenance suggestions.

Cleaning the CR1400

The CR1400 window should be clean to allow the best performance of the device. The window is the clear plastic piece inside the head of the reader. Do not touch the window. Your CR1400 uses CMOS technology that is much like a digital camera. A dirty window may stop the CR1400 from reading bar codes.

If the window becomes dirty, clean it with a soft, non-abrasive cloth or a facial tissue (no lotions or additives) that has been moistened with water. A mild detergent may be used to clean the window, but the window should be wiped with a water moistened cloth or tissue after using the detergent.

The following agents are approved to clean a Code bar code reader:
1) Alcohol Wipes
2) CaviWipes® Disenfecting Towlettes
3) Clorox® Disenfecting Wipes
4) Clorox Bleach Solution (10% clorox bleach, 90% tap water)
5) Medical DiAirKem
6) Sani-Cloth® HB, Super Sani-Cloth® Germicidal, Sani-Cloth® Plus Germicidal Disposable Wipes
7) Virex® II Disinfectant Cleaner

Technical Support and Returns
For returns or technical support call Code Technical Support at (801) 495-2200. For all returns Code will issue an RMA number which must be placed on the packing slip when the reader is returned.
Visit **http://www.codecorp.com/codesupport.php** for more information.

17.0 - Warranty

Code Corporation's CR1400 carries a five year limited warranty as described herein.

Limited Warranty
Code manufactures its hardware products in accordance with industry-standard practices. Code warrants its products will be free from defects in materials and workmanship, provided that the products are used under normal operating condition intended by the Manufacturer. This warranty is provided to the original owner only and is not transferable to any third party. This warranty is subject to any and all accompanying disclaimers, limitations and other terms of this section.

Terms of Warranty
CR1400 readers carry a warranty of five years. Other products with serial numbers, such as but not limited to, radios, CodeXML® modems, battery chargers, stands and power supplies are warranted for three years from date of shipment. Batteries and battery handles carry a two year warranty, or until battery capacity after recharge is less than sixty percent of new, whichever is shortest. Non-serialized items, such as but not limited to handles and cables, carry a 90-day limited warranty.

Exclusions
No warranty herein contained or set out shall apply to any product (i) which has been repaired, altered or tampered with unless done or approved by Code, (ii) which has not been maintained in accordance with any operating or handling instructions supplied by Code, (iii) which has been subjected to unusual physical or electrical stress, immersion in fluids, puncture, crushing, misuse, abuse, power shortage, improper power supply such as incorrect voltage or wrong polarity, negligence or accident, or (iv) which has been used other than in accordance with the product operating and handling instructions. Preventive maintenance is the responsibility of the customer and is not covered under this warranty.

Warranty Coverage and Procedure
During the warranty period, Code will repair or replace defective products returned to Code's service center in the US. For worldwide warranty service call Code Warranty Support at 1-801-495-2200 or email support@codecorp.com.

If warranty service is required, Code will issue a Return Material Authorization Number. Products must be shipped in the original or comparable packaging, with shipping and insurance charges prepaid. Code will pay for shipping and insurance of repaired or replacement products worldwide. Code will use new or refurbished parts at its discretion and will own all parts removed from repaired products. Customer will pay for any pre-shipped replacement product in case it does not return the replaced product to Code within 7 days of receipt of the replacement product. The process for return and customer's charges will be in accordance with Code's Exchange Policy in effect at the time of the exchange.

Customer accepts full responsibility for its software and data including the appropriate backup thereof. Repair or replacement of a product during warranty will not extend the original warranty term. Code's Customer Service organization offers an array of service plans, such as on-site, depot, or phone support, that can be implemented to meet customer's special operational requirements and are available at a substantial discount during warranty period.

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